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CARRIER DEVICE FOR TRANSPORTING OBJECTS IN VEHICLES1 TECHNICAL FIELD OF THE INVENTION

2 This invention relates generally to carrier devices. More  
3 specifically, this invention relates to a device for safely and  
4 securely transporting objects such as flowers in a vehicle. For  
5 example, the device according to the invention can secure an  
6 object, such as an arrangement of flowers in a vase, within the  
7 device, and then be secured on the seat of an automobile using  
8 the vehicle's standard seatbelt. In addition, the present  
9 invention may secure one or more objects of varying sizes and  
10 shapes safely on the seat of a vehicle.

11

12 BACKGROUND OF THE PRESENT INVENTION

13 Carrier devices for vehicles are not new. However, the need  
14 for a simple, stable device for transporting objects in vehicles  
15 has long been apparent. Carrier devices are generally designed  
16 to hold objects on flat, stationary surfaces. However, objects  
17 that are transported on uneven and/or moving surfaces, such as  
18 the seat of a moving vehicle have a higher probability of  
19 shifting, tipping and breaking, thereby causing damage to the  
20 interior of the vehicle or the objects themselves.

21 Individuals who opt to transport objects in a vehicle wish  
22 to arrive at their destination safely, without damaging their  
23 vehicle, its contents, or any articles they may be transporting.

1 Drivers are often distracted by poorly secured objects moving  
2 around within their vehicle, and sometimes even attempt to  
3 stabilize such objects by placing them on the floor or on the  
4 vehicle seat. This solution is palpably inadequate, as objects  
5 still tend to tip, shift, slide or fall while the vehicle is in  
6 motion, which can potentially cause damage to the object, the  
7 automobile and the driver. Further, the size and shape of some  
8 objects do not permit a driver to safely place them on the floor  
9 or vehicle seat. One solution is to use the vehicle's standard  
10 seatbelt to secure an object. An example of this is a  
11 conventional child safety seat, which is specifically designed to  
12 be firmly secured in position using the vehicle's seatbelt.  
13 However, this does not always work, as a seatbelt is not designed  
14 to fit properly around most objects. Further, the shape of the  
15 seat or the tension of the seatbelt itself may cause substantial  
16 damage to a particular object. Many devices for storing and/or  
17 transporting objects in a vehicle are known. Some of these are  
18 briefly discussed below.

19 U.S. Patent Number 5,829,655 ("Salopek") describes a device  
20 for storing objects, which is mounted behind the front seats of  
21 an extended cab truck. This device is shown in FIG. 1. The  
22 device comprises of a container 8 divided into compartments by  
23 panels 2, 4 and 6. One disadvantage with Salopek is that the  
24 device is only compatible with an extended cab truck because it  
25 is specifically designed to fit over a folded down jump seat.

1 Another disadvantage with such a device is that it must be  
2 assembled and installed. Due to its size, a considerable amount  
3 of time and effort is required to first assemble then install  
4 this device.

5 Yet another disadvantage with Salopek is that the device  
6 does not secure objects stored within its compartments. Thus,  
7 objects are free to shift around, tip over and even fall out of  
8 the compartments, causing damage to the object and/or the  
9 vehicle. Finally, the Salopek device is specifically designed to  
10 be mounted in the rear of a vehicle making it difficult to put  
11 objects into the device, and virtually impossible for the driver  
12 to easily monitor the status of the object while driving.

13 U.S. Patent Number 6,105,839 ("Bell") discloses a seat back  
14 carrier 9, specifically designed to hold oxygen tanks, as  
15 depicted in FIG. 2A. Bell provides a personal oxygen system  
16 carrier comprising first frame 11 which is constructed from  
17 horizontal support members frames 12 and 14 and vertical support  
18 members 10 and 16, second frame 17 constructed from horizontal  
19 support members frames 19, 20 and 24, and vertical support  
20 members 18 and 22. Upper and lower struts 26 having first end 28  
21 and second end 40 both rotatably connect to first frame 11 and  
22 second frame 17, respectively. Also, as depicted in FIG. 2B,  
23 oxygen tank 46 is secured in carrier 9 by load retention straps  
24 48 and 50, while carrier 9 hangs from headrest 52 by "s" hooks 56  
25 and is secured to seat back 44 by flexible support straps 42 and

1 54.

2 One disadvantage of the design disclosed in Bell is that  
3 load retention strap 50 rests over the center of the object being  
4 carried. Objects more fragile than oxygen tanks are likely to be  
5 damaged during transportation because load retention strap 50 is  
6 designed to bear a large force on an oxygen tank during transit.  
7 Another disadvantage with Bell's design is that, like Salopek's  
8 device, it is specifically designed to carry objects immediately  
9 behind a seat. This design feature is problematic because it  
10 keeps the object out of the immediate sight range of the driver  
11 and it limits the transporting of objects to specific shapes,  
12 sizes and weights. For example, the carrier will likely jostle  
13 smaller, lighter objects, causing some or significant damage  
14 thereto. Finally, another disadvantage of the design disclosed  
15 by Bell is that the dimensions of the device are such that it is  
16 impossible to adequately secure objects of varying sizes and  
17 shapes, specifically, thinner, smaller objects. Another  
18 disadvantage is that smaller objects can slide through the  
19 openings of the closed device onto the floor.

20 Yet another conventional carrier device is shown in FIGs. 3A  
21 and 3B. As depicted, carrier 90, which bears the name Kroger  
22 Flowers, is a device for transporting flowers in a vehicle.  
23 Referring first to FIG. 3A, shown is a top plan view of the pre-  
24 constructed version of carrier device 90. This pre-constructed  
25 form comprises a generally rectangular sheet forming side panels

1 60, 62, 64, 66, base panels 68, 70, 72, 74, side flaps 78 and 82  
2 and semi-circle panels 80 and 84. Diamond-cut openings 86 and 88  
3 are positioned on side panels 60 and 64, which, as shown in FIG.  
4 3B, are designed to secure side flaps in the constructed version  
5 of carrier device 90. Turning now to FIG. 3B, depicted is  
6 carrier device 90 in its constructed form. To construct the  
7 device, side panels 60, 62, 64 and 66 must be folded into a  
8 square and then secured by folding and gluing bottom panels 68,  
9 70, 72 and 74 on top of one another and then gluing tab 76 to the  
10 inside of side panel 66. Once constructed, Kroger has a circular  
11 perforated opening on its top formed by semi-circle panels 80 and  
12 84 through which flowers or vases are inserted. The box shape is  
13 secured by folding side flaps 78 and 82 into diamond-cut openings  
14 86 and 88 on side panels 60 and 64.

15 One disadvantage of carrier device 90 is that the shape of  
16 the device is not adjustable to securely carry flower  
17 arrangements of different shapes and sizes. Though carrier 90  
18 may be useful for certain specific flower arrangements, the  
19 standard size will not accommodate a wide variety of flower  
20 arrangements. One would have to construct carrier device 90 in  
21 alternate sizes to accommodate for different flower arrangements.  
22 Another disadvantage is that carrier device 90 cannot adequately  
23 secure larger floral arrangements due to their top-heavy nature.  
24 Although carrier 90 may provide some support at the sides of the  
25 flower arrangement and may provide a flat surface on which a

1 flower arrangement can stand, movement and bumps associated with  
2 a moving vehicle will most likely cause the floral arrangement to  
3 sway, tip and ultimately fall over. Yet another disadvantage of  
4 carrier device 90 is that the bumps and turns associated with  
5 vehicular movement will induce side flaps 78 and 82 to pop out of  
6 diamond-cut openings 86 and 88, causing the device to collapse.  
7 Yet another disadvantage is that carrier device 90 does not have  
8 any means to adequately secure it within a vehicle. Although  
9 carrier device 90 may provide a flat surface upon which flowers  
10 can stand, the device itself is not secure within the vehicle  
11 while the vehicle is moving.

12 Still another disadvantage with carrier device 90 is that if  
13 it is placed on the seat of a vehicle, it would likely slide  
14 around or even fall over. Also, carrier device 90, even though  
15 it is specifically designed to carry flowers, does not provide  
16 sufficient space between the object being secured (i.e., the  
17 floral arrangement) and the seat back of the vehicle, thus likely  
18 to cause the flower arrangement to lean against the seat back for  
19 support, thereby causing damage to the flowers. Finally, another  
20 disadvantage is that the device of Kroger cannot be adequately  
21 secured by a seatbelt. The device has smooth sides and edges  
22 which would cause the seatbelt to slide off of it. The seatbelt  
23 can also slide up into a flower arrangement, causing damage to  
24 the flowers.

25 For the foregoing reasons, a need for a simple and portable

1 device for transporting objects in a vehicle exists. It is also  
2 important for the device to be easily accessible and be within  
3 the immediate eye sight of the driver. In particular, a device  
4 that can be secured with a seatbelt without causing damage, and  
5 one that can be easily constructed to fit and secure objects of  
6 varying sizes and shapes. A review of the prior art shows a need  
7 for a specific invention designed especially for the  
8 transportation of flower containers in vehicles. The need exists  
9 for a device to allow the secure transportation of flowers in a  
10 vehicle, while keeping them stationary and without causing any  
11 damage to the vehicle or the flowers themselves. Also there is a  
12 need for a device which supports objects by something other than  
13 the seat back. Accordingly, the need exists for a device that  
14 will not cause damage to the object being transported, that does  
15 not hang on the back of a vehicle seat, that allows a driver to  
16 monitor the object without difficulty and that will adequately  
17 secure objects in a vehicle while in transit.

18

19 SUMMARY OF THE INVENTION

20 The present invention is for a carrier device for safely and  
21 securely transporting objects in a vehicle. For example, the  
22 device according to the invention can secure an object such as an  
23 arrangement of flowers in a vase within the device. The device  
24 may then be secured on the seat of an automobile using the  
25 vehicle's conventional seatbelt. In addition, the present

1 invention may hold one or more objects of varying sizes and  
2 shapes safely and securely on the seat of a vehicle.

3 It is an object of the present invention to provide a device  
4 that securely hold objects upright in a stationary position while  
5 being transported in an unstable environment such as the seat of  
6 a moving vehicle.

7 Yet another object of the present invention is to prevent an  
8 object from tipping over while being transported in a vehicle.

9 Objects which are not specifically designed for transportation in  
10 automobiles inherently lack stability while in a moving vehicle,  
11 and therefore will tip when placed in the seat or on the floor of  
12 a moving vehicle. The present invention mitigates those problems  
13 of an unstable automobile ride by providing a larger and flat  
14 bottom surface on which the object may stand.

15 Yet another object of the present invention is to provide a  
16 secure and stationary means to hold a container in a moving  
17 vehicle. The present invention is designed to carry various  
18 objects including, but not limited to, flower arrangements,  
19 vases, cups, canisters and buckets. The object is secured within  
20 the present invention at the apex of the device and by the sides  
21 of the device. The perforations at the apex of the device  
22 secures the object. The object is then secured by the sides of  
23 the device, which cover the object. The adjustable sides limit  
24 the space around the object, thereby immobilizing it. By holding  
25 an object near its base and at the apex, the device prevents the

1 object from rolling around and/or tipping over while being  
2 transported. Additionally, the present invention eliminates the  
3 extra step of constructing the device in various sizes, since the  
4 present invention is adjustable to hold objects of various widths  
5 and heights. The ability of the present invention to be adjusted  
6 allows the device to safely and securely carry objects of varying  
7 shapes and sizes. The device is designed to allow the driver to  
8 monitor the status of the object by securing it in the front seat  
9 or another seat of the vehicle, rather than placing the object in  
10 the trunk, on the floor or anywhere else in the vehicle.

11 Yet another object of the present invention is to prevent  
12 damage to the object. The apex of the device is built such that  
13 the object will be positioned toward the front of the seat. This  
14 design feature creates distance between the seat back and the  
15 object, thereby protecting the object from being crushed.

16 Yet another object of the present invention is to reduce a  
17 driver's distraction by the instability of the transported  
18 object. A driver transporting an object wants to ensure the  
19 object gets to its destination without damage to it or to the  
20 vehicle. The present device provides a safe and secure means of  
21 transporting the object by first holding the object and second by  
22 allowing the device itself to be secured with a seatbelt.

23 Yet another object of the present invention is that it is  
24 designed to fit in all modes of transportation that provide  
25 seatbelts, including cars, buses, trains, vans and even

1 airplanes.

2 Other objects, features, and characteristics of the present  
3 invention, as well as the methods of operation and functions of  
4 the related elements of the structure, and the combination of  
5 parts and economies of manufacture, will become more apparent  
6 upon consideration of the following detailed description with  
7 reference to the accompanying drawings.

8

9 BRIEF DESCRIPTION OF THE DRAWING

10 A further understanding of the present invention is seen in  
11 the illustrations of the accompanying drawings. Although the  
12 illustrated embodiment is merely exemplary of systems for  
13 carrying out the present invention, both the organization and  
14 method of operation of the invention, in general, together with  
15 further objectives and advantages thereof, may be more easily  
16 understood by reference to the drawings and the following  
17 description. The drawings are not intended to limit the scope of  
18 this invention, which is set forth with particularity in the  
19 claims as appended or as subsequently amended, but merely to  
20 clarify and exemplify the invention.

21 For a more complete understanding of the present invention,  
22 reference is now made to the following drawings in which:

23 FIG. 1 shows a perspective view of a prior art cargo  
24 transportation device according to U.S. Patent No. 5,829,655;

25 FIG. 2A shows a perspective view of a prior art oxygen

1 transportation device according to U.S. Patent No. 6,105,839 in  
2 the open position;

3 FIG. 2B shows a front view of the carrier of FIG. 2A holding  
4 an oxygen tank as it is secured to the back of a seat;

5 FIG. 3A shows a top view of a conventional device for  
6 transporting flowers in vehicles in its pre-constructed position;

7 FIG. 3B shows the device of FIG. 3A in its constructed  
8 position;

9 FIG. 4 shows a top plan view of the preferred embodiment of  
10 the carrier device according to the present invention in its pre-  
11 constructed position;

12 FIG. 4A shows a side view of the carrier device of FIG. 4 in  
13 its constructed position;

14 FIG. 4B shows a top plan view of the carrier device of FIG.  
15 4A;

16 FIG. 4C shows a perspective view of the carrier device of  
17 FIG. 4A;

18 FIG. 5A shows a side view of the carrier device of FIG. 4A  
19 having an object, such as a flower vase, positioned therein;

20 FIG. 5B shows the carrier device of FIG. 5A as positioned in  
21 an automobile seat, and secured by a conventional seatbelt;

22 FIG. 6 shows a top plan view of an alternative embodiment of  
23 a carrier device according to the present invention in its pre-  
24 constructed position;

25 FIG. 7A shows a perspective view of yet another alternative

1 embodiment of a carrier device according to the present invention  
2 in its constructed position; and

3 FIG. 7B shows the carrier device of FIG. 7A as positioned in  
4 an automobile seat, and secured by a conventional seatbelt.

5

6 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

7 As required, a detailed illustrative embodiment of the  
8 present invention is disclosed herein. However, techniques,  
9 systems and operating structures in accordance with the present  
10 invention may be embodied in a wide variety of forms and modes,  
11 some of which may be quite different from those in the disclosed  
12 embodiment. Consequently, the specific structural and functional  
13 details disclosed herein are merely representative, yet in that  
14 regard, they are deemed to afford the best embodiment for  
15 purposes of disclosure and to provide a basis of the claims  
16 herein which define the scope of the present invention. The  
17 following presents a detailed description of a preferred  
18 embodiment (as well as some alternative embodiments) of the  
19 present invention.

20 Referring first to FIG. 4, shown is the preconstructed form  
21 of the preferred embodiment of the present invention. As  
22 depicted, fold lines 130 and 132 on the rectangular sheet form  
23 panels 134, 136 and 138. Panels 134 and 136 each possess one  
24 seatbelt notch 142 near perforated lines 146. Tabs 140 are  
25 positioned on the unfolded end of panel 134, while slots 144 are

1 cut from the surface of horizontal base panel 138.

2 Next, FIG. 4A shows one side of the fully constructed view  
3 of the present invention. Objects are inserted through  
4 perforated lines 146, which are positioned toward the front of  
5 the device away from the seat back to provide ample space between  
6 the seat back and the object when the present invention is placed  
7 on a vehicle seat. As a result of this design, more delicate  
8 objects are protected from damage. For example, referring now to  
9 FIG. 5A, shown is the present invention holding a vase. The top  
10 of the vase is surrounded by and secured in place by flaps 147  
11 which are formed once perforated lines 146 are pierced. Flaps  
12 147 provide extra support in holding the vase securing the vase  
13 at its top end. The vase is positioned off-center in the present  
14 invention to protect the vase and its contents from the seat  
15 back. Of course, flaps 147 may be pushed outward (as shown in  
16 FIG. 5A) or may be pushed inward (not shown) to secure an object.  
17 Generally, pushing flaps 147 outward would secure larger objects,  
18 while pushing flaps 147 inward would secure smaller objects.

19 FIG. 4B shows the top view of the preferred embodiment of  
20 the present invention. As depicted, the preferred embodiment is  
21 folded along fold lines 130, and 132 thereby forming panels 134,  
22 136 and 138. Tabs 140 on vertical panels 134 are inserted into  
23 slots 144 on the surface of horizontal base panel 138. As shown  
24 in FIG. 4B, slots 144 can be placed at different distances to  
25 accommodate for the varying sizes of objects. In alternative

1 embodiments, the position of slots 144 can vary to accommodate  
2 objects of different sizes and shapes, such as fish bowls, etc.

3 FIG. 4C shows the top perspective of the device. Vertical  
4 panels 134 and 136 are positioned above horizontal base panel 138  
5 to form a triangle. Apex 130 of the device is formed by vertical  
6 panels 134 and 136 which are folded along fold line 130. In the  
7 preferred embodiment, horizontal base panel 138 rests on the seat  
8 of the automobile.

9 Referring next to FIG. 5B, shown is a perspective view of  
10 the present invention secured in a seat 150 by seatbelt 148.  
11 Seatbelt 148 fits securely into seatbelt notches 142 and anchors  
12 the present invention into automobile seat 150. Perforated lines  
13 146 are thus positioned farther away from seat back 152 to  
14 provide distance between the object and seat back 152.

15 One alternative embodiment of the present invention is a  
16 double carrier device for transporting objects in vehicles (see  
17 FIG. 6). This embodiment mitigates the problem of transporting  
18 two separate objects at once. Both containers can then be  
19 positioned away from the back of the seat and away from each  
20 other.

21 Another alternative embodiment has a no-slip horizontal base  
22 panel 138. The base panel can comprise of non-slip material  
23 including but not limited to felt, velcro, cloth or rubber. This  
24 provides more friction allowing less movement between the  
25 horizontal base 138 of the device and the surface it contacts

1 such as the seat of a vehicle 150 (see FIG. 5B). Examples of  
2 such surfaces typically consist of fabric, vinyl or leather.

3 In yet another embodiment, the device has four panels to  
4 safely and easily enclose square-like or rectangular objects such  
5 as fish tanks, VCRs or video game consoles. The present  
6 invention can vary in sizes to accommodate for large or smaller  
7 items. In another alternative embodiment the present invention  
8 has four panels and extra material along the horizontal base to  
9 form an enclosed base in order to transport objects like trays of  
10 food or piles of loose paper.

11 In another alternative embodiment, clips or sticky/tacky  
12 material are positioned at perforated lines 146 and flaps 147.  
13 The clips or sticky/tacky material attach on object to provide  
14 extra security. In yet another embodiment of the present  
15 invention, horizontal base panel 138 has sticky/tacky material on  
16 its inner surface to secure the bottom of the object. Yet  
17 another alternative embodiment may comprise handles (not shown),  
18 for example, on panel 138 between slits 144 and fold 132, as a  
19 means for carrying the device. The handles are preferably made  
20 of the same material as the device, but can be cloth, plastic,  
21 wire, string or rope.

22 Yet another alternative embodiment of the present invention  
23 has a plurality of fold lines on its side panels to allow  
24 construction of the invention into a rectangular shape as  
25 depicted in FIG. 7A. Fold lines 161 and 163 are located on

1 panels 164 and 166 respectively. Fold line 161 is positioned on  
2 panel 164, above tabs 170, and while fold line 163 is positioned  
3 on panel 166 above fold line 162. These additional fold lines  
4 allow for construction of a rectangular embodiment when four  
5 panels, two vertical and two horizontal, are formed by folding  
6 along fold lines 161, 162, and 163 and then inserting tabs 170  
7 into slots 174. The rectangular shape of this embodiment is then  
8 secured by inserting tabs 170 into slots 174 on horizontal base  
9 panel 168. Once constructed, top horizontal panel 165 is formed  
10 by panels 164 and 166. Vertical panel 181 is necessarily formed  
11 once tabs 170 are inserted into slots 174 and fold line 161 is  
12 folded. Finally, vertical panel 183 is formed by folding along  
13 fold lines 162 and 163. In another alternative embodiment, seat  
14 belt slits 173 are located on vertical panels 181 and 183. In  
15 further alternative embodiments seat belt slits may be perforated  
16 openings, perforated lines, notches or cut outs. Perforated  
17 lines 176 extend radially from a center point located on top of  
18 horizontal panel 165. Preferably, perforated lines 176 form a  
19 circular pattern and are equally distant from each other. Also  
20 preferable is that perforated lines 176 are positioned such that  
21 the opening for securing an object is toward the front of the  
22 device. Also, slots 173 are positioned such that the lap portion  
23 of a conventional seatbelt may be inserted therein to secure the  
24 device to the seat.

25 In another alternative embodiment, perforated lines 176 can

1 be positioned exactly in the middle, in one corner or towards one  
2 end of top horizontal panel 165. In other alternative  
3 embodiments the plurality of perforated lines 176 ranged in  
4 number from two to hundreds. In yet other alternative  
5 embodiments, perforated lines 176 may be positioned in such a  
6 manner as not to be equally distant from each other. Perforated  
7 lines 176 may also form scores or cut outs, and may be  
8 square-like, rectangular, ovular or triangular in shape. The  
9 non-circular opening would allow objects having square,  
10 rectangular ovular or triangular shaped tops to be tightly  
11 secured by the opening of the device.

12 Referring to FIG. 7B, the device is secured into vehicle  
13 seat 150 by positioning seat belt 178 through seat belt slits  
14 173. The square-like or rectangular configuration of the present  
15 invention allows for safe and secure transportation of objects  
16 such as fish tanks, VCRs, video game consoles and other square or  
17 rectangular objects.

18 The present invention, in accordance with all of the  
19 embodiments described herein, is preferably constructed as a  
20 single-piece structure and is made of a light cardboard.  
21 Alternatively, the present invention may be constructed as a  
22 plurality of elements and may be made of plastic, wood, or  
23 ceramic.

24 While the present invention has been described with  
25 reference to one or more preferred embodiments, such embodiments

1 are merely exemplary and are not intended to be limiting or  
2 represent an exhaustive enumeration of all aspects of the  
3 invention. The scope of the invention, therefore, shall be  
4 defined solely by the following claims. Further, it will be  
5 apparent to those of skill in the art that numerous changes may  
6 be made in such details without departing from the spirit of the  
7 present invention and that the present invention is capable of  
8 being embodiment in other forms without departing from its  
9 essential characteristics.

10  
11